

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of the claims in the application.

1. (Currently Amended) A biodegradable segmented block copolymer comprising polyol residues, wherein ~~in that~~ the polyol residues have a molecular weight of at least 4000 Daltons, wherein ~~and in that~~ the polyol residues are connected by acetal linkages, and wherein the polyol residues are selected from the group consisting of polyesters, degradable carbonates, and polyamides.
2. (Currently Amended) The biodegradable segmented block copolymer of claim 1, wherein ~~in which~~ the acetal linkages comprise polyacetal residues.
3. (Currently Amended) The biodegradable segmented block copolymer of claim 2, wherein ~~in which~~ the polyacetal residues comprise enzyme degradable polyacetal/diamino acid ester blocks.
4. (Currently Amended) The biodegradable segmented block copolymer of claim 2, wherein ~~in which~~ the polyacetal residues comprise an incorporated bioactive diol.
5. (Currently Amended) The biodegradable segmented block copolymer of claim 2, wherein ~~in which~~ the polyacetal residues comprise ~~both~~ enzyme degradable polyacetal/diamino acid ester blocks and incorporated bioactive agent.
6. (Currently Amended) The biodegradable segmented block copolymer of claim 1, wherein ~~in which~~ the segmented block copolymer is blended with other polymeric and/or ceramic and/or glass material.

7. (Currently Amended) The biodegradable segmented block copolymer of claim 1,
wherein ~~in which~~ the polyol residues have a molecular weight of at least 5000 Daltons.
8. (Currently Amended) The biodegradable segmented block copolymer of claim 1,
wherein ~~in which~~ the polyol residues have a molecular weight between 4000 and 20000 Daltons.
9. (Currently Amended) The biodegradable segmented block copolymer of claim 1,
wherein ~~the in which~~ polyol residues comprise a polyester ~~polyesters~~.
10. (Currently Amended) The biodegradable segmented block copolymer of claim 9,
wherein ~~in which~~ the polyester is ~~chosen~~ selected from the group[[:]] consisting of homo-
polymers and co-polymers of polycaprolactone (PCL), ~~copolymers of polycaprolactone~~
~~(PCL)~~, polylactic acid (PLA, L and D forms), polyglycolic acid (PGA), polydioxanone,
~~aliphatic~~ aliphatic esters ~~or and~~ aromatic esters ~~ester~~.
11. (Currently Amended) The biodegradable segmented block copolymer of claim 1,
wherein ~~in which~~ the polyol residues comprise ~~comprises~~ a degradable carbonate.
12. (Currently Amended) The biodegradable segmented block copolymer of claim 1,
wherein ~~in which~~ the polyol residues comprise a polyamide.
13. (Currently Amended) The biodegradable segmented block copolymer of claim 1,
wherein ~~in which~~ the biodegradable segmented block copolymer further comprises a
compound selected from the group[[:]] consisting of polyglycolic acid (PGA),
polycaprolactone (PCL) ~~or and~~ polylactic acid (PLA).

14. (Currently Amended) The biodegradable segmented block copolymer of claim 1,
wherein ~~in which~~ the biodegradable segmented block copolymer further comprises a biocompatible inorganic material.
15. (Currently Amended) The biodegradable segmented block copolymer of claim 14,
wherein ~~in which~~ the biocompatible inorganic material is selected from the group consisting of ~~[[:]]~~ calcium carbonate, hydroxyapatite (HA), and ~~or~~ tricalcium phosphate (TCP).
16. (Currently Amended) ~~[[A]]~~ The biodegradable segmented block copolymer of claim 1,
wherein ~~in which~~ the polyol residue comprises a polyester ~~polyesters~~ with a melting point between about 50°C and 80°C.
17. (Currently Amended) The biodegradable segmented block copolymer of claim 1,
wherein ~~in which~~ a stabilizer or accelerator is blended into or polymerized into the biodegradable segmented block copolymer.
18. (Currently Amended) The biodegradable segmented block copolymer of claim 1, further comprising ~~in which the segmented block copolymer comprises whether blended in or reacted with or other,~~ a biological active agent blended in or reacted with the segmented block copolymer.
19. (Currently Amended) The biodegradable segmented block copolymer of claim 18,
wherein said biological active agent is selected from the group consisting of a growth factor, an antibiotic, a strontium salt, a fluoride salt, a magnesium salt, a sodium salt, a bone morphogenetic factor, a chemotherapeutic agent, a pain killer, a bisphosphonate, a bone growth agent, an angiogenic factor, and combinations thereof.

20. (Currently Amended) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises a growth factor and wherein said growth factor is selected from the group consisting of platelet derived growth factor (PDGF), transforming growth factor b (TGF-b), insulin-related growth factor-I (IGF-I), insulin-related growth factor-II (IGF-II), fibroblast growth factor (FGF), beta-2-microglobulin (BDGF II), bone morphogenetic protein (BMP), and combinations thereof.
21. (Currently Amended) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises an antibiotic and wherein said antibiotic is selected from the group consisting of tetracycline hydrochloride, vancomycin, cephalosporins, and aminoglycosides such as tobramycin, gentacin, and combinations thereof.
22. (Currently Amended) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises a bone growth agent and wherein said bone growth agent is selected from the group consisting of proteins of demineralised bone, demineralised bone matrix (DBM), bone protein (BO), bone morphogenetic protein (BMP), osteonectin, osteocalcin, osteogenin, and combinations thereof.
23. (Currently Amended) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises a chemotherapeutic agent and wherein said chemotherapeutic agent is selected from the group consisting of cisplatinum, ifosfamide, methotrexate, doxorubicin hydrochloride, and combinations thereof.
24. (Currently Amended) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises a pain killer and wherein said pain killer is

selected from the group consisting of lidocaine hydrochloride, bipivacain hydrochloride, non-steroidal anti-inflammatory drugs such as ketorolac tromethamine, and combinations thereof.

25. (Currently Amended) The biodegradable segmented block copolymer of claim 1, wherein ~~in which~~ the biodegradable segmented block copolymer further comprises ~~is reinforced with~~ a reinforcing material.
26. (Currently Amended) The biodegradable segmented block copolymer of claim 25, wherein ~~in which~~ the reinforcing material is comprises a polymer filler particulate.
27. (Currently Amended) The biodegradable segmented block copolymer of claim 25, wherein ~~in which~~ the reinforcing material is comprises a fibre.
28. (Cancelled)
29. (Currently Amended) The biodegradable segmented block copolymer of claim 1, wherein ~~in which~~ the biodegradable segmented block copolymer forms in whole, or part, a medical device.
30. (Previously Presented) A medical device comprising the biodegradable segmented block copolymer of claim 1.
31. (Currently Amended) A method of manufacture of a medical device comprising ~~the step~~ forming *in situ* the biodegradable segmented block copolymer of claim 1.
32. (New) The medical device of claim 30, wherein the biodegradable segmented block copolymer comprises a coating on the medical device.